



ALIANZA NACIONAL
DE INTELIGENCIA ARTIFICIAL

PROPOSAL FOR A NATIONAL AGENDA
ARTIFICIAL INTELLIGENCE FOR

MEXICO
2024-2030



ALIANZA NACIONAL
DE INTELIGENCIA ARTIFICIAL

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GLOSSARY

In the digital age, terms and their definitions evolve rapidly, and it's common for a term to have multiple definitions. This document considered definitions from international organizations, of which Mexico is a member and participated in the drafting and adoption, academic articles, and regulatory documents from different levels of government.

Cross-training

It is a process of training employees to perform multiple jobs within an organization. In cross-training, employees learn to perform different jobs within the organization, in addition to their own. (Pancardo Pérez et al., 2011)

Digital Citizenship

It refers to the set of rights and responsibilities that people have in the digital environment. (Argentina, nd)

Complementarity

The process of learning new skills or teaching new skills to workers (Cambridge University, 2024)

Reconversion

The process of learning new skills to be able to do a different job, or of training people to do a different job. (Cambridge University, 2024)

Meaningful connection

This refers to broadband access at speeds that allow for intensive data use in simultaneous activities (online classes, teleworking, etc.), access devices suitable for relevant uses, and basic digital skills. (Rojas, 2024)

Clean energy

Renewable energy generated of sources (Nance, 2018, 104)

Renewable energy

They are a type of energy derived from natural sources that can be replenished faster than they can be consumed. (UN, nd)

Energy efficient

It refers to energy production or consumption that is efficient in terms of reducing waste and improving energy use. The concept is often associated with energy efficiency, which is the practice of using less energy to perform the same task.

(University of Paulo, 2015) Sao

Environmental rights

The right of every human being to be respected, protected, promoted and guaranteed a pollution-free environment that fosters healthy development and well-being, as well as the preservation and restoration of ecological balance (UNAM, nd)

Human rights

Rights inherent to all human beings, without distinction of any kind, such as race, sex, nationality, ethnic origin, language, religion or any other condition (UN, nd). In addition to human rights related to the central and peripheral nervous system, as well as to the mental activity of individuals and the information derived from them

Algorithmic discrimination

It refers to the phenomenon in which artificial intelligence and machine learning algorithms perpetuate or even amplify human prejudices and biases present in the data they are trained on. (Dialnet, n.d.)

Soft or socio-emotional skills

Skills that people use to communicate, solve problems, lead, empathize, and think creatively. (UNESCO, n.d.)

Digital skills

They are the sum of the knowledge, capacities, skills, attitudes, and strategies required for the use of technologies and the Internet. (UNESCO, 2021)

Digital identity

Digital representation of known information about a specific person, group, or organization. (ITU, nd)

Digital Public Infrastructure (DPI)

It is a set of shared, secure, and interoperable digital systems, based on open technologies, to offer equitable access to public or private services on a societal scale. (WEF, 2024)

Artificial Intelligence (AI)

For the purposes of this document, we refer to the OECD *Recommendation of the Council on Artificial Intelligence*, which conceptualizes AI-based technologies as machine-based systems that, with explicit or implicit objectives, infer from the input they receive, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptability after deployment. (OECD, 2023)

Artificial Intelligence (AI)

It refers to the cooperative and integrated work between two or more disciplines, and its focus is on achieving syntheses that transcend the boundaries of the participating disciplines. (UCL, n.d.)

Language models

A complex mathematical representation of language that relies on very large amounts of data and allows computers to produce language that sounds similar to what a human might speak. (Cambridge Dictionary, n.d.)

Multi-actor

It is a form of international cooperation that combines the efforts and expertise of the public sector with those of the business sector and/or civil society and/or academia, seeking results in the implementation of initiatives aimed at improving the living conditions of individuals and communities within the framework of development agendas. (agcidChile, nd)

Multisectoral

That affects several sectors, especially in the economic sphere. (RAE, 2023)

Nearshoring

It refers to the outsourcing of work to an adjacent country with an equivalent level of economic development; for example, when call center jobs are transferred from the U.S. to Canada. As such, it can be contrasted with offshoring, the subcontracting of work to a distant country with a lower level of economic development. (Oxford Reference, n.d.)

Technological neutrality

Proactively promote the freedom of choice for all users and consumers, whether public or private, of the technological alternative that best suits their needs and circumstances. (IFT, 2019)

Cloud

Cloud computing is a model that enables ubiquitous, convenient, on-demand access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or interaction with the service provider. This cloud model is composed of five core characteristics, three service models, and four deployment models. (Mell, n.d.)

Economically Active Population (EAP)

All persons of working age, either those who had a job during the reference period or those who did not have one but were seeking employment through specific actions. (INEGI, 2002)

Powershoring

It refers to the decentralization of production to countries that offer clean, safe, cheap, and abundant energy and are close to major consumption centers, in addition to other advantages for attracting industrial investment. (Arbache, 2022)

Regulatory Sandbox

A regulatory approach typically summarized in writing and published that allows for dynamic, time-bound innovation models to be tested under the oversight of regulators. (UNSGSA, 2024)

Citizen security

It is the process of establishing, strengthening, and protecting the democratic civil order, eliminating threats of violence among the population and enabling safe and peaceful coexistence. (UNDP, 2014)

National security

The indispensable condition for guaranteeing national integrity and sovereignty; free from threats to the State, in pursuit of building a lasting and fruitful peace. (Government of Mexico, 2020)

Public safety

According to Mexican legal precepts, it is a shared function among the Federation, the states, and the municipalities, whose purpose is to ensure the protection of people's property and rights, as well as to promote conditions conducive to peaceful coexistence and the individual and collective development of society.

This function involves the prevention, prosecution, and punishment of infractions and crimes, as well as the social reintegration of offenders. (Mexican Chamber of Deputies, 2009) (Center for Social Studies and Public Opinion, 2006)

Technological sovereignty

The ability of a state or federation of states to provide the technologies it considers critical to its well-being, competitiveness, and capacity for action, and to be able to develop or acquire them from other economic areas without unilaterally relying on a structure. (Edler et al., 2020)

Open source

Software developed and maintained through open collaboration, and available (usually at no cost) for anyone to use, examine, alter, and redistribute as they wish. (Raymond, nd)

Certified code

Refers to one that has been digitally signed using a code signing certificate. (Gitlan, 2024)

Sustainability

This allows the needs of the present to be met without compromising the ability of future generations to meet their own needs. (UN, nd)

Transdisciplinary

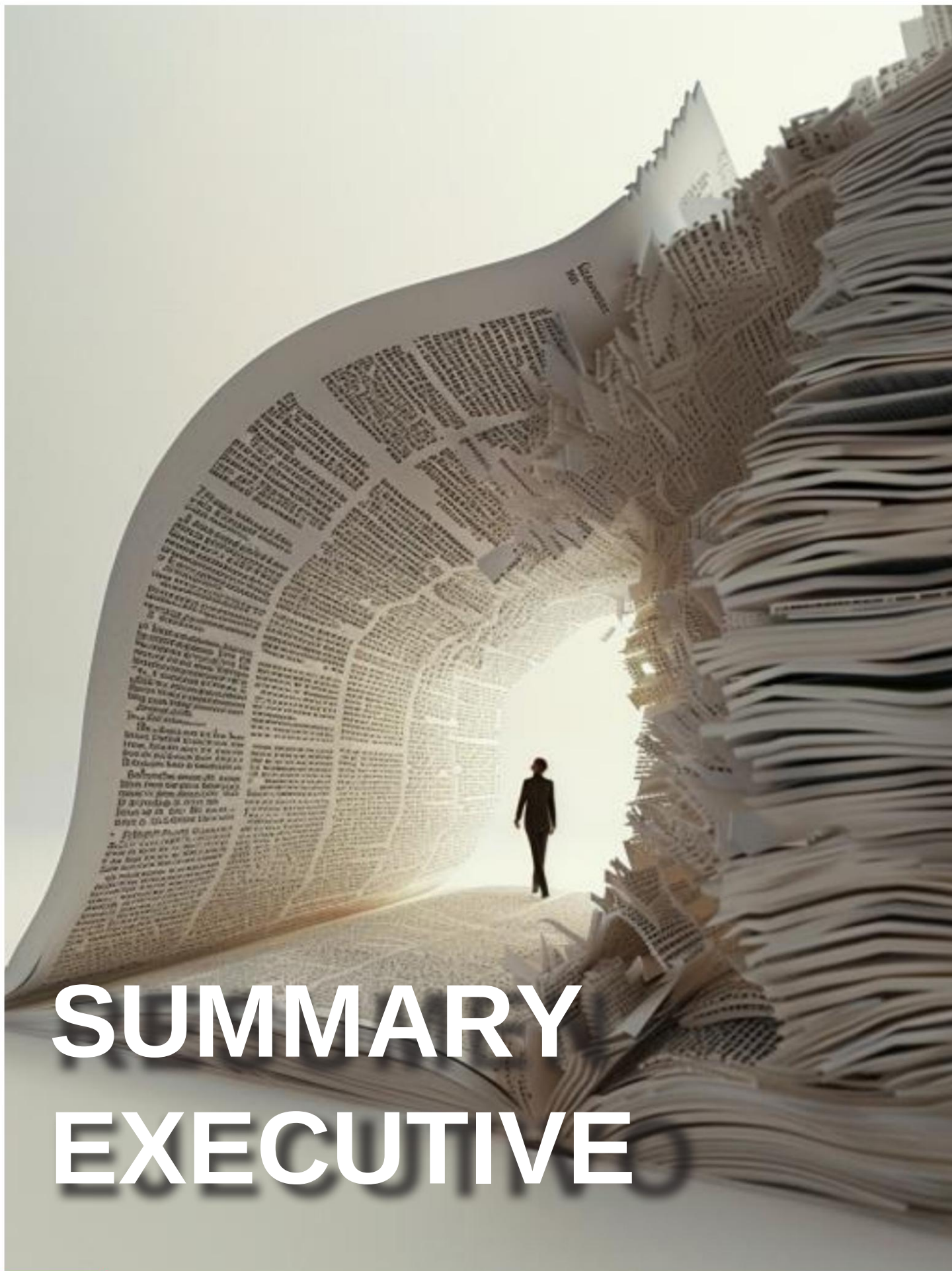
It is a term used in academic literature to describe a research approach that integrates knowledge from different disciplines and involves collaboration between researchers from diverse fields to address complex, interdisciplinary problems. This approach is characterized by its fluidity and contextual nature, as it involves shifting perspectives and methodologies to meet the needs of the research question and the stakeholders involved. Transdisciplinarity is distinguished from interdisciplinarity in that it goes beyond integrating knowledge from different disciplines and aims to create something entirely new, often challenging disciplinary ideologies and adopting a holistic perspective. (Hendricks, 2018)

Dual education

It is a teaching and learning modality that takes place in two different places: the educational institution and the company, which complement each other through coordinated activities. (Araya Muñoz, 2008, 46)

Continuing education

A conception of education as a lifelong process that involves the individual in an integral way and is related to any type of productive activity in human beings. (Andrade Paco et al., 2009, 59)



SUMMARY EXECUTIVE

This document is a collaborative effort of experts from the public and private sectors, academia, organized civil society, international and autonomous organizations, and the general public, coordinated by the National Alliance for Artificial Intelligence (ANIA) for the benefit of the entire Mexican population.

The recommendations issued here reflect a strong and multifaceted commitment to guiding the ethical and responsible development and use of artificial intelligence in Mexico toward a sustainable and inclusive future. The recommendations are integrated into a framework of public policies, specific regulations, and governance strategies that emphasize a collaborative, multi-stakeholder approach that involves all sectors of society.

Chapter 1: Describes the contextual framework and identifies a public policy framework for an Artificial Intelligence Strategy for the country, with a multisectoral approach. It highlights the importance of Artificial Intelligence for the future of Mexico and underscores the need for strategic actions to harness its potential while mitigating risks.

Chapter 2: Establishes a framework for developing public policy, regulatory, and governance recommendations to ensure and protect human and environmental rights with a transdisciplinary approach.

Chapter 3: Details the recommendations arising from the discussions and reflections held during the multidisciplinary working group sessions between September and December 2023. These discussions focused on best practices in digital public policy applicable to the Mexican context, as well as the recommendation frameworks of international organizations, and are divided into the following topics: i) Public Policies and Rights; ii) Education and Labor Markets; iii)

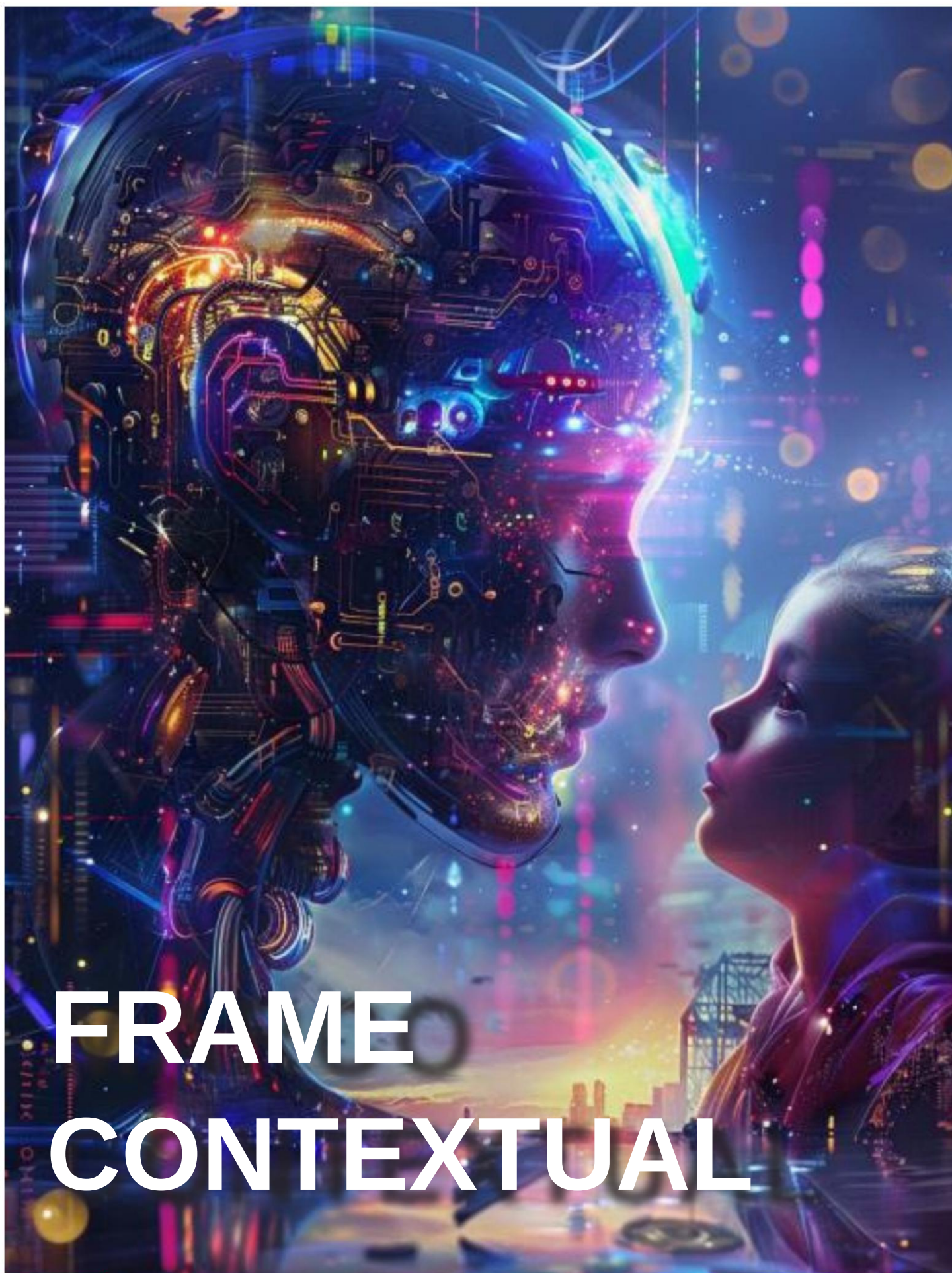
Cybersecurity and Risk Management, iv) Gender, Inclusion, and Social Responsibility; v) Infrastructure and Data; and vi) Innovation, Research, and Industry.

Chapter 4: Refers to regulatory recommendations for Artificial Intelligence in Mexico. The regulatory recommendations were based on an interdisciplinary analysis of existing policies, ongoing legislative proposals, and the ethical and legal considerations that are shaping the future of this technology in the country. These include privacy protection, equity in access and use of AI-based technologies, algorithmic transparency and accountability in their implementation, governance, and the value of data.

Chapter 5: Addresses recommendations related to the effective and democratic governance of Artificial Intelligence in the country, which is essential to ensuring its ethical, responsible, transparent, and beneficial use for society. The governance recommendations identified in this document seek institutional mechanisms, policies, and strategies that the country is implementing to oversee and regulate the development, use, and application of this technology. It considers the creation of multi-stakeholder, multi-sector, interdisciplinary, and transdisciplinary committees, as well as collaboration with the private sector, academia, and civil society.

This document contains analyses and proposals from the report on Mexico's state of readiness in artificial intelligence, *the Readiness Assessment Methodology* (RAM), conducted by the United Nations Educational, Scientific and Cultural Organization (UNESCO). One of the key inputs for this report was the working groups organized under the framework of collaboration with ANIA. This methodology supports its Member States in implementing the Recommendation on the Ethics of Artificial Intelligence (AI) by identifying institutional and regulatory gaps, enabling support to be tailored to ensure an ethical AI ecosystem, and complementing the Ethical Impact Assessment at the micro level.

Finally, the document concludes with the need for a comprehensive vision of the country's digital landscape. It notes that in order to implement the recommendations contained in this document, it is imperative to have the continued participation of all stakeholders in the country's digital ecosystem, ensure close institutional coordination between the various governing bodies, and adapt structures to enable these recommendations to materialize.



FRAME CONTEXTUAL

The dynamism in the field of Artificial Intelligence science in recent years has marked a turning point in the global conversation about technology and its impact on society. In 2022, the Fundéu RAE (Spanish Royal Academy of Fine Arts) highlighted its relevance by choosing "Artificial Intelligence" as its Word of the Year, indicative of the growing interest in this emerging technology.

This interest has only intensified in 2023, a year in which AI was the focus of important debates and events worldwide, including the "Process of 'AI of Hiroshima'" (ANIA, 2023), the "Declaration of Bletchley" (ANIA, 2023), the "Joe Biden Executive Order on Safe and Trustworthy Artificial Intelligence" (La Artificial Intelligence Revolution: The Decree Joe Biden's (2023) *AI Act* of the European Union (*AI Act* | *Shaping Europe's Digital Future*, 2024), the "Santiago Declaration" (Ministry of Science

Technology, Knowledge and Innovation of Chile, 2023), the "*Global Partnership on Artificial Intelligence Summit 2023*" in New Delhi (*Global Partnership on Artificial Intelligence*, 2023), the "World Economic Forum Annual Meeting in Davos" (WEF, nd), and the "*AI Summit*" for the Common Good of the International Telecommunication Union (ITU).

These events highlight the central importance of AI on global agendas, so much so that the *New York Times* designated 2023 as "the year of Artificial Intelligence" (Nieto, 2023). This is indicative of a trend that promises to continue and expand further in the coming years.

The importance of AI and its applications is also reflected in its economic projections.

According to Dr. Ryan Abbot, AI-based technology is expected to contribute up to \$15.7 trillion to the global economy by 2030 (Artificial Intelligence: A Threat to Employment in Mexico?, 2023), a figure that exceeds the current combined production of China and India, highlighting the immense potential of this technology to transform economies worldwide.

It is important to note that AI will not eliminate jobs per se; rather, it will transform them and could bring benefits to those who can access this and other emerging technologies. According to an analysis by the World Economic Forum (WEF), it is estimated that by 2025, 85 million jobs could be replaced by automation, but 97 million new job opportunities will be created. (WEF, 2020)

According to the *Goldman Sachs* report (2023), Artificial Intelligence and automation have the potential to impact 300 million jobs globally. It is estimated that 18% of work tasks could be automated through the

AI, with a greater impact observed in developed markets compared to emerging markets. In the European Union, this percentage will increase by 24%, while in the United States it will reach 25% (Briggs-Kodhani, 2023).

At the regional level, the adoption of Artificial Intelligence technologies is gaining momentum in Latin America and the Caribbean (LAC), where governments, businesses, academia, and civil society are increasingly recognizing their potential to drive economic, educational, and social growth, thereby improving the quality of life of people, especially the most vulnerable (such as women, older adults, indigenous communities, people with disabilities, children, and adolescents).

A study by the United Nations Development Programme (UNDP) suggests that, by 2030, AI could contribute up to 5.4% to the region's Gross Domestic Product (GDP) (Opp, 2024), through innovative projects in sectors such as digital health, adaptive education, and smart agriculture.

AI-based technology is positioning itself as a catalyst for change and progress in the region.

AI-based technology is expected to become a fundamental pillar for economic development, innovation, competitiveness, society, and the reduction of inequalities globally.

The advancement of this discipline and its successful adoption in Mexico represents a significant opportunity to boost the national economy and optimize supply chains, placing the country in a favorable position in the international technological landscape.

In Mexico, AI is emerging as a priority on various agendas (public sector, private sector, academic sector, autonomous organizations, and organized civil society), with growing recognition of its importance for competitiveness and productivity.

In the 2023 Latin American Artificial Intelligence Index (ILIA), Mexico obtained a score of 48.55, ranking fifth in the region, behind Chile, Brazil, Uruguay, and Argentina. Mexico's technological infrastructure is in line with the Latin American average, highlighting advances in 5G technology but facing challenges in internet access and use. In terms of data, the country exceeds the regional average, providing opportunities to strengthen research and development. (ECLAC, 2023)

In terms of talent, Mexico stands out in AI literacy; however, this has had a greater impact in the central part of the country (CDMX and EDOMEX)—which represents a geographic gap in technological skills of all kinds—for computer science graduates and disruptive skills (ECLAC, 2023). Although the research community is mature, it approaches the average AI impact in Latin America.

In Research and Development, Mexico excels in patents but faces shortcomings in productivity, open source quality, and business adoption of AI. Meanwhile, in governance, the country is below average, lacking an updated strategy despite participating in international standards and having data protection regulations. (ECLAC, 2023)

On the other hand, *Oxford Insights* publishes the Government AI Readiness Index annually, assessing the performance of 193 countries. Mexico experienced initial growth in 2021, but its score has since declined due to a lack of continuity in digital public policy, dropping from 52.62 to 50.37 in 2023. From 2021 to 2023, Mexico lost 13 places, ranking 68th (Oxford Insights, 2023). Although it showed some progress in integrating AI into public services, this progress has stagnated (Exhibit 1.9).

The adoption of AI-based technologies is on the rise. The *Global AI Adoption Index 2022* indicates that 31% of companies in Mexico have actively implemented AI (IBM Global AI Adoption Index 2022, 2022). Furthermore, a survey conducted by the Internet Association and Knowsy AI indicates that 55% of internet users in Mexico perceive AI as a useful tool, while 22% express concerns about its potential negative impacts (El Economista, 2023).

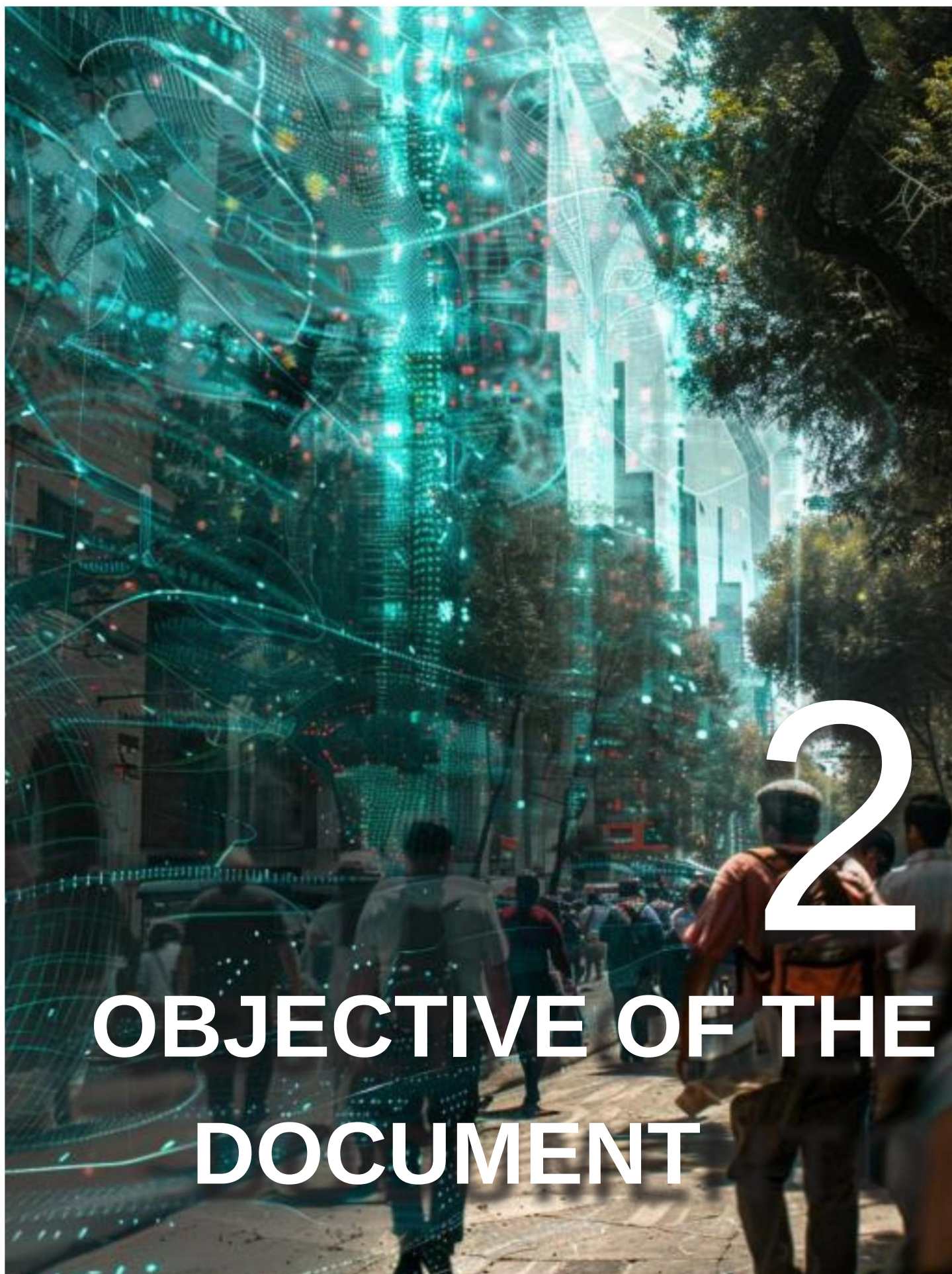
These figures reflect a duality present both in Mexico and globally: an enthusiasm for innovation and technological development, coupled with caution regarding the ethical, economic, social, technological dependency, and cybersecurity risks that these advances could entail.

Mexico's strategic location could make it a key destination for companies looking to relocate part of their production, as reflected in the *nearshoring strategy*, but it requires the appropriate digital infrastructure (data storage and processing technology), capabilities, and skills for its development.

In this context, maximizing benefits requires establishing a shared national vision and developing specific strategies that transform that vision into concrete actions through policies.

public, new laws or updates to existing ones, and governance that involves multiple stakeholders. This document provides recommendations aimed at facilitating and structuring an Artificial Intelligence Agenda that will allow Mexico to enhance the innovation, development, and use of AI-based technologies for the common good, safeguarding the rights of people and the environment.

Proposes to contribute to the administration (2024-2030) an updated overview of AI, hoping that it can be considered in the National Development Plan and the National Digital Strategy to address the technological revolution that is shaping the 21st century.



OBJECTIVE OF THE DOCUMENT

Establish a framework that promotes the integration of Artificial Intelligence as a driver of inclusion and social, economic and educational development of the country, scientific research, technological development,

Ethical, responsible, and equitable innovation and entrepreneurship. Our approach focuses on developing public policy, regulatory, and governance recommendations to ensure and protect human and environmental rights.

This will be achieved through adequate risk management associated with the use cases of AI-based technologies, applying principles of ethics and social responsibility that promote transparency and accountability at all stages of the development of these technologies, from their design to their deployment and use in the country.

In this sense and to meet the macro objective, on April 23 of last year, the National Intelligence Alliance was launched from the Senate of the Republic. Artificial Intelligence (ANIA), a multi-stakeholder mechanism that recognizes and strengthens the emerging technologies and artificial intelligence ecosystem in Mexico from a comprehensive, plural, and multidisciplinary perspective, through these specific actions:

1. Generation of a diagnosis and proposals for regulation, public policy and governance model. To achieve this objective, three sessions of six different working groups were held:

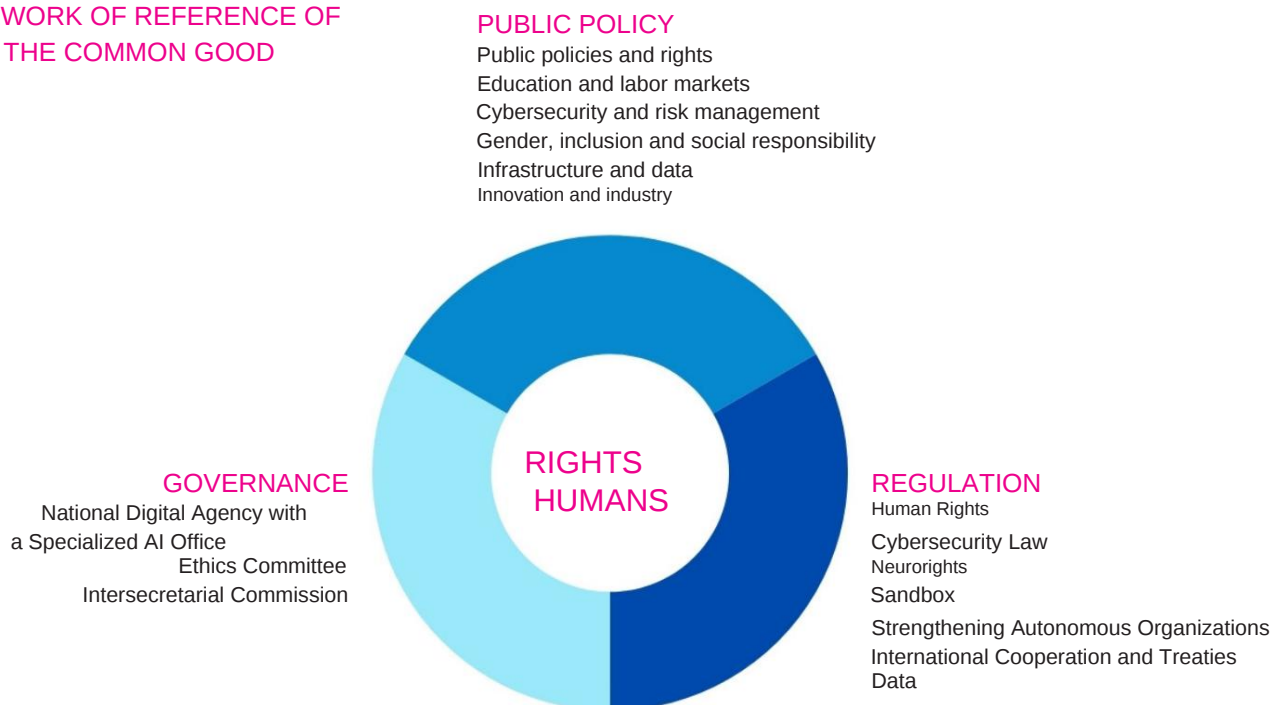
- a. Public Policies and Rights
- b. Education and Labor Markets
- c. Cybersecurity and Risk Management
- d. Gender, Inclusion and Social Responsibility
- e. Infrastructure and Data
- f. Innovation and Industry

2. AI awareness and training
3. Documentation of AI use cases in Mexico
4. International collaboration

The National Artificial Intelligence Alliance is launching a new governance model, integrating technology leaders, the private sector, academia, civil society, international organizations, autonomous communities, government, national and international legislators and regulators, to identify a national vision under a reference framework as indicated in the following figure - "AI Reference Framework for the Common Good."

This document is a collaborative effort of experts from the public and private sectors, academia, organized civil society, international organizations, and the general public, coordinated by the National Alliance for Artificial Intelligence, in collaboration with UNESCO, for the benefit of the entire Mexican population.

ANIA: FRAMEWORK OF REFERENCE OF AI FOR THE COMMON GOOD





3

RECOMMENDATIONS OF POLITICS PUBLIC

The recommendations developed below arise from the reflections shared during the various sessions of the working groups coordinated by ANIA, in support of UNESCO. These dialogues and reflections focused on best practices in digital policy applicable to the Mexican context, as well as the frameworks of recommendations from international organizations.

of which Mexico is a party, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO) Recommendation on the Ethics of Artificial Intelligence; and the Principles of the Organization for Economic Cooperation and Development (OECD).

to meet the Sustainable Development Goals by 2030. Each proposed action must be accompanied by a clear roadmap, specifying the entity responsible for carrying it out, the necessary investment and the possible sources of financing, whether public (through budget items, funds, etc.) and/or private;

3.1 PUBLIC POLICY AND RIGHTS

Objective 3.1.1: Incorporate public policy actions in Artificial Intelligence as part of the National Development Plan (NDP), the National Digital Strategy (NDS), and the 2030 Sustainable Development Goals Compliance Plan, defining a roadmap for each action, responsible entities, and performance indicators.

Actions:

- Develop a methodology for mapping the AI ecosystem in Mexico;
- Integrate into the National Digital Inclusion Policy/ National Digital Agenda, in accordance with the mandate of Article 6 of the Constitution, includes specific actions for the development, use, and exploitation of emerging technologies, including Artificial Intelligence, promoting the full exercise of human rights and environmental protection, as a structural part of the agenda;
- Define the set of actions for the National Policy through an open and collaborative process, involving all participants in Mexico's digital ecosystem. This includes academia, the private sector, civil society, government entities at all levels, international organizations, and the general public, ensuring comprehensive representation of all sectors involved;
- Establish concrete actions, defined in one or more specific digital agendas, within the framework of the 2024-2030 National Development Plan, as well as in the Mexico Agenda.
- Ensure that actions—at a minimum—promote the development and access to Digital Public Infrastructure (DPI), such as information-sharing systems and digital financial services, as well as access to open data in machine-readable formats. DPI development will be structured following standards, technical specifications, and international reference frameworks such as the International Telecommunication Union's (ITU) GovStack Global, ensuring privacy, security, and inclusion from the ground up;
- Implement a digital identity system;
- Build a national data infrastructure with a democratic governance model that defines data types, a regulatory framework that provides certainty throughout the data lifecycle, the actors and those responsible for its generation, access, and processing, as well as potential sanctions in the event of misuse.
- This governance model must be linked to policies of transparency and access to public information, privacy and protection of personal data, open data, among others that are deemed necessary;
- Enable a public dashboard to track the progress of the agenda(s)'s actions, with open-source compliance indicator data and visualizations that facilitate information analysis. This dashboard may include specific indicators that measure the impact of Artificial Intelligence in Mexico.

3.2 EDUCATION AND MARKETS LABOR

Objective 3.2.1: Promote the integration of skills and knowledge of technologies based on Artificial Intelligence in the curricular design of basic, upper secondary and higher education.

Actions:

- Establish an ecosystem that includes key elements that enable the integration of AI-based technologies into educational environments (infrastructure, teacher professional development, provision of digital educational resources, as well as monitoring and evaluation mechanisms);
- Ensure the necessary infrastructure (such as connectivity and technological devices) that allows for the integration of AI-based technology tools into educational institutions, especially in rural and marginalized areas;
- Train teachers and other educational authorities at all levels in the knowledge and responsible integration of AI-based technologies within educational environments, preparing them to understand and transmit these skills to the student population. This effort will ensure the training of new generations of highly skilled professionals for the acquisition, deepening, and creation of AI-based technologies, thus strengthening the country's leadership in this emerging technological field;
- Develop and implement a curriculum design, at each educational level, that considers the understanding, use, and development of AI-based technologies from their application in everyday contexts to programming in updated and relevant languages aligned with technological and digital progress, and data analysis; as well as the promotion of computational thinking, which encompasses problem-solving through decomposition, pattern recognition, abstraction, and the use of algorithms.
- Ensure that study plans and programs at all educational levels include the development of soft or socio-emotional skills. This is done in order to generate professional profiles that do not

not only complement the understanding, use and development of AI-based technologies, but also align with the demands of society and the current and future labor market;

- Generate public policies that promote digital citizenship through awareness and training campaigns;
and
- Incorporate monitoring and evaluation mechanisms to measure the impact of AI on education, aligning policies and strategies with international standards for evaluating educational technologies, such as those established by UNESCO, ITU, and the OECD;
- Facilitate international collaboration to share best practices and lessons learned in the implementation of AI in different educational contexts, through knowledge-sharing platforms and participation in global forums.

Objective 3.2.2: Promote training, updating, and professional certification programs (micro-credentials), in accordance with the labor demand generated by AI-based technologies, always guaranteeing labor rights.

Actions:

- Promote continuing education and training through educational resources and workshops at all levels;
of
- Strengthen training programs, updating professional certification (micro-credentials) aimed at the Economically Active Population (EAP). These programs should develop and foster skills and competencies that enable people to maintain their current jobs, facilitate the transition, or acquire new skills according to labor market demand. Training offerings should include a focus on ethical and responsible use and the protection of human rights;
- Implement comprehensive training and capacity building programs in AI-based technologies for public officials;
- Promote an organizational culture that promotes the development and integration of AI as a fundamental tool for the Digital Transformation of Public Administration, considering key aspects such as change management. This will allow staff who

integrates public agencies to understand the benefits and risks associated with this technology, identify the fields of application that generate value and acquire the technical knowledge necessary for its proper implementation;

- Implement a dual education model that allows students to enter the labor market while continuing their studies through hybrid and flexible methods, combining in-person teaching with online learning;
- Implement complementary, retraining, and cross-training policies in the labor market that generate the skills necessary to adapt to changes brought about by emerging technologies.

Objective 3.2.3: Increase investment in research and development of emerging technologies to drive Mexico's development.

Actions:

- Promote the strengthening of the ecosystem of the Artificial Intelligence in Mexico and mitigate the talent drain by implementing policies that promote the creation of job opportunities for Mexican citizens in AI research and specialized roles, in collaboration with educational institutions, private initiatives, and international organizations;
- Create a public and private investment fund for scientific and technological research and development of AI systems and emerging technologies;
- Promote the creation of centers of excellence and technological clusters specializing in AI-based technologies to foster innovation and technological development in priority sectors for the country.

3.3 CYBERSECURITY AND MANAGEMENT OF RISKS

Objective 3.3.1: Promote cybersecurity in the country by implementing principles for technological development, risk management, and research, as well as effective protocols for sharing information on cyberattacks between sectors.

Note: These actions they must to see reflected in are the Cybersecurity that gives HE describes in the section Law recommendations of regulation.

Actions:

- Establish principles for the development, acquisition, and implementation of software and emerging technologies that integrate: a) elements of human interaction, control, and oversight; b) risk management protocols, incident monitoring, and information authentication; and c) privacy, data protection, transparency, accountability, and explainability policies;
- Increase investment in cybersecurity research and development and the applicability of machine learning algorithms to complement analysis models of past events (prescriptive and diagnostic) and future events (predictive and descriptive) in cyber risk management;
- Promote innovation in cybersecurity and cyber risk management through the use of controlled testing spaces— "sandboxes" — involving multidisciplinary and multisector expert teams. These teams will define and evaluate different impact measurement criteria for the use of AI systems, which will be applied during the contracting, development, and deployment processes in the public and private sectors;
- Continuously update protocols for sharing information on cyberattacks among public sector organizations, academia, businesses/SMEs, educational institutions, and organized civil society to: a) share lessons learned and improvement strategies for preventing and correcting cyber incident response systems; and b) strengthen police response protocols for cyberattacks, offensive attacks, or deanonymization techniques;

- Develop ongoing awareness campaigns on the benefits and risks of AI-based technologies. These should facilitate and promote the adoption of standards, risk management, and cybersecurity certifications, particularly in small and medium-sized enterprises (SMEs);
- Create a multi-stakeholder group responsible for analyzing and anticipating problems related to the development and use of emerging technologies, as well as their ethical, legal, medical, social, cultural, economic, political, public safety, and citizen impact.

3.4 GENDER, INCLUSION AND RESPONSIBILITY SOCIAL

Objective 3.4.1: Promote the full exercise of human rights in the development, acquisition, and use of AI systems in the public and private sectors through guides, protocols, training, and technical assistance.

Actions:

- Develop development and use guides for AI-based technologies in social and educational programs, access to credit, employment opportunities, and health services aimed at preventing discrimination in the profiling of the user population;
- Establish information protocols for users on the use of AI-based technologies in the systems with which they interact, clearly describing the risks and limitations of the system, the complaint process, and the timeframe for resolving them;
- Identify and mitigate algorithmic discrimination by providing training on bias, gender perspective, and human rights to all those involved in the different stages of the AI cycle, from data generation to system use;
- Provide high-speed internet infrastructure and large-volume data processing capacity to universities and research centers focused on developing AI use cases applied to the context and needs of the communities they serve. Facilitate access to this infrastructure for SMEs and local public institutions for use case development, training, and skills development.

in AI and digital inclusion of the entire population;

- Measure and mitigate the environmental impacts of the AI lifecycle, particularly with regard to energy consumption, water consumption, and greenhouse gas emissions from public and private data centers;
- Promote technology-based entrepreneurship and attract capital by strengthening the opportunities of the “Powershoring”;
- Equip public spaces such as libraries, digital classrooms, customer service centers, and digital inclusion centers with programs for the development, use, and application of AI in different activities and professions. These spaces must provide accessible *hardware and software* for people unfamiliar with new technologies or with visual, hearing, physical, intellectual, or psychosocial disabilities;
- Promote humanistic and ethical training in IA, with a focus on human rights, inclusion, diversity and gender perspective, facilitating access to scholarships for training and specialization studies in areas

STEM for women, indigenous communities, and people in rural and semi-urban environments;

- Safeguard the country's multicultural and linguistic diversity by taking steps to generate training data (large local and regional language models) that represent the population's diversity, integrating cultural aspects into AI development to ensure more equitable, relevant, and ethically sound systems.

3.5 INFRASTRUCTURE AND DATA

Objective 3.5.1: Promote investment in the development of Digital Public Infrastructure (DPI), including telecommunications networks, software, AI models, and open data structures designed under ethical principles.

Actions:

- Define a national governance policy of data;
- Promote investment in the deployment of telecommunications networks - including community networks -,
Increasing the processing capacity of data centers, managing sustainable energy consumption, technical and administrative support capabilities, and strengthening computing networks between academic research and development centers;
- Promote the development of *software* with certified, open, reusable code based on international standards, as well as open AI models as part of the *stack*.

technological of Public Administration.
Such DPI must be available for shared use by public and private entities;
- Strengthen the development of data structures and schemas that facilitate the legal and secure exchange of information, implementing personal data anonymization techniques and applying ethical and responsible processing protocols, especially for commercial data containing personally identifiable information. In addition, promote the systematic generation of representative statistics, indicators, and databases;
- Promote data and open government policies, as well as application interfaces (APIs) that ensure users have access to the necessary, up-to-date, and high-quality data for the development and use of AI-based technologies.

In this sense, effective data management and quality throughout its life cycle must be ensured;
- Define clear principles for how government and businesses collect, use, and share data, promoting transparency, explainability, and auditability in interactions with AI-based solutions.

They must also specify the mechanisms

protection and supervision to ensure data privacy and security;

- Accelerate the digitalization of all state agencies for better application and use of AI in the design of proactive and highly personalized digital services for user interaction experiences. This also contributes to improving all public sector work, decision-making, and evidence-based public policy design.
- Train public officials at all levels of government in the ethical, responsible, and human rights-based application of AI-based technologies in their work, promoting the development of use cases to improve services to the population, as well as in the internal management of the civil service. Training should be part of a Public Innovation agenda that allows for open experimentation spaces such as service design labs and/or sandboxes. These should be enabled in collaboration with the GovTech ecosystem and through public and private co-financing.
- Align incentives to promote investment in basic telecommunications and internet infrastructure, computing, supercomputing, and data centers, opening up opportunities for the implementation of public-private partnerships based on principles of technological neutrality and competition.

3.6 INNOVATION, RESEARCH AND INDUSTRY

Objective 3.6.1: Articulate the attraction of capital for research and development of emerging technologies, including AI.

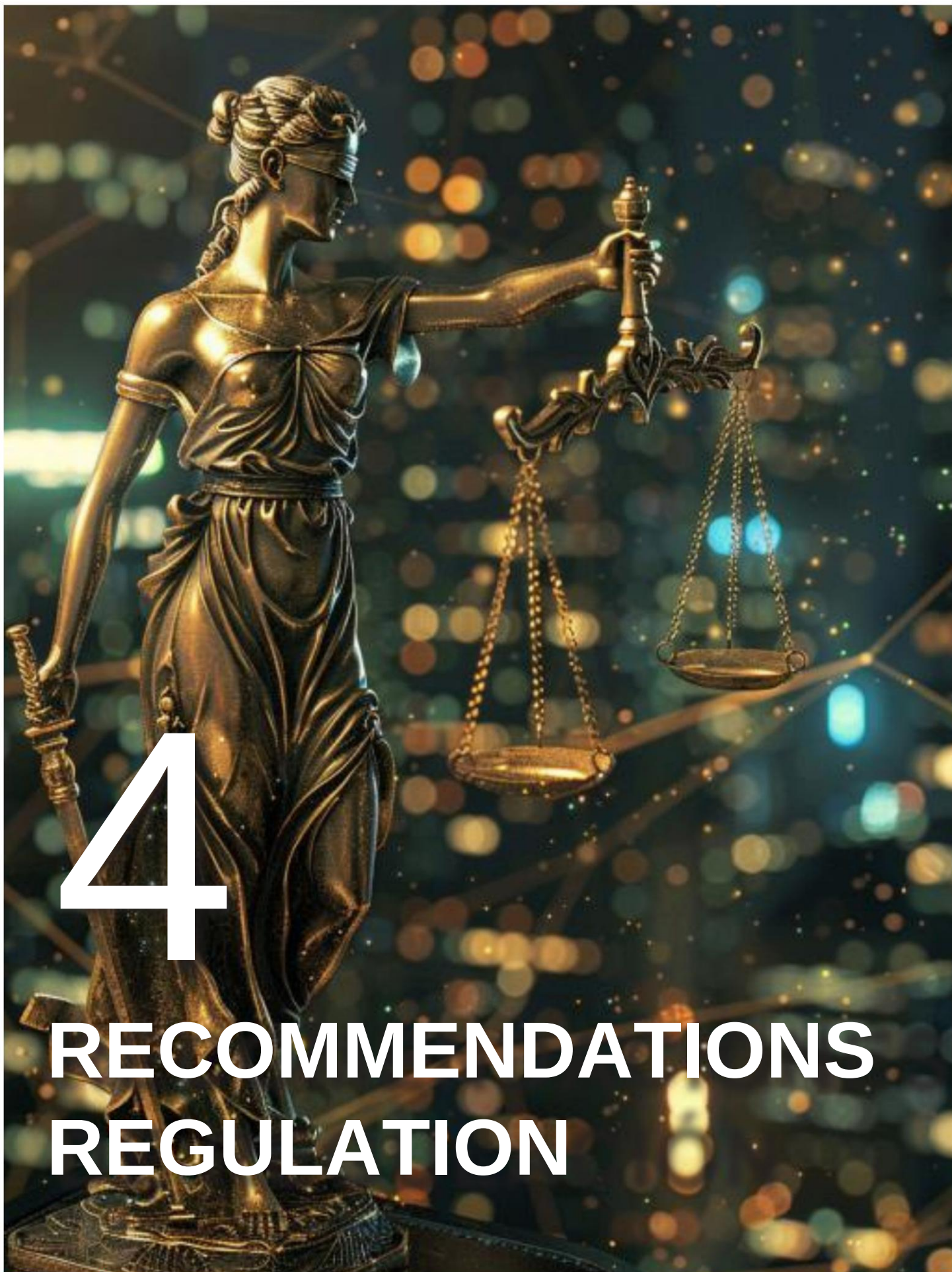
Actions:

- Progressively increase investment in Research and Development (R&D) to reach the OECD average investment as a percentage of Gross Domestic Product (GDP) of 2.3%; Mexico currently allocates only 0.3%.

This increase should prioritize research and development of AI use cases across all economic and social sectors in the country, utilizing the physical and software Digital Public Infrastructure (DPI). This should begin with sectors that already have a technological foundation and AI absorption capacity to achieve short-term results and success stories that justify future investments in other sectors;
- Focus investment funds on developing AI use cases in industries with diverse management teams in terms of professional experience and equal numbers of women in leadership positions. Use cases will be able to utilize public digital infrastructure and controlled sandbox testing spaces, as well as access to national and international research and development networks;
- Promote technological sovereignty, Technology-based entrepreneurship and capital attraction, boosting *nearshoring* opportunities for companies developing products and services in the areas of AI applied to bioscience, open AI models, video games, green technology, and supporting the high-tech industry, such as the development of next-generation microprocessors, under a sustainable approach;
- Support collaborative research by promoting joint projects between universities, industry, and technology-based startups to advance the development of AI;
- Increase the role of international cooperation as well as the coordination of policies and strategies at the national level to strengthen technological sovereignty in strategic areas - such as microprocessor design;
- Require system developers

Based on AI, the use of controlled testing spaces called "Sandboxes" that facilitate compliance with security protocols, protection and respect for human rights, impact measurement, and algorithmic transparency standards. These spaces will provide high computing capacity and access to networks of specialists in Mexico and abroad to help calibrate use cases;

- Boosting SME productivity by digitizing their operations and developing new business models using AI. Promoting the development of technical and legal capabilities in areas such as intellectual property, privacy, and personal data, and providing labeling resources that facilitate validating the authenticity of information, all in accordance with national and international human rights standards.



4

RECOMMENDATIONS REGULATION

In the context of the accelerated advancement of artificial intelligence-based technologies in all areas of society, Mexico is at a key moment to establish a solid regulatory framework that fosters innovation and protects the fundamental rights and values of individuals, especially those of underrepresented and vulnerable population groups.

The regulatory recommendations were based on an analysis of existing policies, ongoing legislative proposals, and the ethical and legal considerations that are shaping the future of this technology in the country.

These range from privacy protection to equity in the access and use of AI-based technologies, to algorithmic accountability and transparency in their implementation, and identifying the governance and value of data.

- Integrate into the protection of human rights the protection of rights related to the central and peripheral nervous system, as well as the mental activity of people and the information derived from them - neurorights - by updating the General Law on the Protection of Personal Data Held by Subjects

Obliged and the Federal Law for the Protection of Personal Data Held by Private Parties, for protection against neurotechnologies;

- Promote the strengthening of *software and hardware* certification bodies for the development, use, and application of AI-based technologies, in accordance with the standards agreed upon by the regulatory coordination mechanisms implemented for the purposes of this document. These bodies should operate under institutional coordination mechanisms, ensuring collaboration across different sectors and levels of government to guarantee an integrated and coherent vision at the national level;
- Promote progressive, flexible and self-adaptable regulation schemes as regulation, under a framework of principles, obligations and binding legal consequences;
- Establish clear and specific regulations for data management in the cloud and data centers;
- Opt for AI regulation based on technological neutrality, economic competition, risk management, privacy, security, and transparency in accordance with international standards and best practices;

- Classify AI-based technologies by their degree of impact on human rights, prohibiting the recognition and prediction of emotions, thoughts and/or behaviors, and/or the impact on these, as well as biometric identification for profiling or surveillance purposes;

- Provide means and mechanisms for reporting abuses and applying the corresponding sanctions;

- Combine existing regulations and definitions with international reference frameworks such as the “UNESCO Recommendation on the Ethics of Artificial Intelligence”, the OECD AI Principles, Resolution A/78/

L49 of the United Nations (UN), among others, based on the need for the development, use, and exploitation of AI in the Mexican context. This also includes determining which AIs should be adapted, updated, and/or created;

- Strengthen the guarantee of the full exercise of human rights as regulatory principles throughout the digital sphere, including AI-based technologies. The definition of standards, codes of ethics, and anti-bias processes must be published as Secretarial Decrees, Guides, and Guidelines according to the scope of competence of Autonomous Bodies, State, and Municipal Governments, through participatory processes with academia, organized civil society, and communities impacted by the use of AI. It is essential that these principles and regulations be based on the Political Constitution of the United Mexican States.
- Issue a Cybersecurity Law that considers: the protection of critical infrastructure and sensitive data, the promotion of cybersecurity education and awareness, as well as collaboration between the public and private sectors to share information and best practices, and the implementation of effective incident response mechanisms. The process of drafting the Law should consider compliance with the standards of the Budapest Convention or other cybercrime conventions, clearly differentiating national security, which deals with protecting critical infrastructure and services, from citizen security, which focuses on protocols for action and response to cyber incidents under effective, transparent, and accountable cooperation mechanisms to ensure an effective contribution to cybersecurity;

- Harmonize regulatory principles of trade treaties and international agreements to which Mexico is a party;
 - Promote ethical and responsible management in the development, use, application, and implementation of AI-based technologies (legal responsibility framework): those responsible, responsibilities, consequences; and
 - Implement “*regulatory sandboxes*” or controlled testing spaces, where regulators meet to guide companies in the safe launch of their innovations to the market, in order to identify potential risks that may or may not lead to a possible specific intervention (De La Peña et al., 2024);
 - Strengthen the capacities of the Commission Federal Economic Competition Authority (COFECE) as a regulatory body that promotes competition and equitable access to data so that new technologies such as those based on Artificial Intelligence are accessible to everyone, regardless of their size (entrepreneurs or tech giants), and so that they are a driver of development, innovation, and economic inclusion in Mexico;
 - Strengthen the capacities of the Federal Telecommunications Institute (IFT) as the telecommunications authority to improve infrastructure deployment conditions and the affordability of telecommunications services in Mexico.
- This will be achieved through processes of meaningful connectivity, autonomy, and digital ownership, based on contextual analyses based on the needs, interests, and associated risks of localities in terms of connectivity;
- Strengthen the capacities and regulatory framework of the National Institute for Transparency, Access to Information, and Protection of Personal Data (INAI), as the competent body for personal data protection, to include oversight and compliance with regulations related to the use of AI-based technologies and personal data protection.
- This would involve implementing monitoring and evaluation mechanisms to ensure that public and private institutions comply with established regulations and take corrective measures when necessary;
- Update the Federal Data Protection Law
Personal Data Held by Private Parties, the General Data Protection Law
Personnel in Possession of Obligated Subjects;
- to
- Create a Public Open Data Law;
 - Strengthen the capacities of the Mexican Institute of Industrial Property (IMPI) and the Institute National Copyright Institute (INDAUTOR) on the protection of copyrights, patents and trademarks in the context of the development, use, application and commercialization of AI-based technologies;
 - Merge and strengthen the capabilities of the Mexican Institute of Industrial Property (IMPI) and the National Institute of Law Author (INDAUTOR) in matters of copyright, patents and trademarks protection in the context of the development, use, application and commercialization of AI-based technologies;
 - Define the framework for the protection of intellectual property and copyright for the use of data and works in AI systems, as well as the protection of works, developments, and inventions produced with AI-based technologies;
 - Update the Federal Copyright Law and the Federal Law for the Protection of Industrial Property. This will allow regulations to adapt to new technological realities and ensure adequate protection of intellectual property rights in a digital environment;
 - Develop practical guides, contract templates, and risk assessment tools to help mitigate potential ethical and legal issues, as well as conduct audits, investigate potential violations, and impose sanctions on those who fail to comply with established regulations;
 - Strengthen the capacities of the National Institute Electoral (INE), through the creation of a regulatory framework that defines the limits and conditions under which AI-based tools can be used in political campaigns, electoral propaganda, and the dissemination of election-related information;
 - Develop strategic tools to identify and counter AI-generated disinformation. Also, develop systems to detect fake or misleading news, disinformation, distortion of reality, and other synthetic content that can be used to manipulate public opinion.

- Strengthen the capacities of the Judiciary for the ethical and responsible use and application of AI-based technologies through training, the development of ethical guidelines and standards, auditing and evaluation of algorithms, protection of privacy and human rights, and promotion of citizen participation and accountability in justice processes;
- The judiciary should collaborate with experts in AI, ethics, and human rights to develop ethical and legal guidelines and standards for the use and application of AI-based technologies in the judicial system. These guidelines should address issues such as transparency, fairness, impartiality, and data protection, ensuring that algorithm-based judicial decisions are fair and respect fundamental rights;

Strengthen the powers of the National Human Rights Commission (CNDH), the National Center for Disaster Prevention (CENAPRED), the National Institute of Women (INMUJERES), and the National Institute of Industrial Property (INPI) in areas related to discrimination, inclusion, representation, consent in audiovisual material, safeguarding of image and reputation, as well as the rights of indigenous communities, vulnerable groups, and other relevant issues. Promote the constant evolution, effectiveness, and coherence of legislation on emerging technologies within the legislative branch;

- Integrate the principles of human rights protection in the development, use and application of AI-based technologies in all international conventions and treaties, such as the

USMCA, incorporating specific clauses that address these issues and referencing relevant international instruments;
- Establish oversight and compliance mechanisms, foster cooperation and the exchange of best practices, and promote the inclusion of safeguard and dispute resolution clauses.



5

RECOMMENDATIONS OF GOVERNANCE

Effective and democratic governance of AI is essential to ensure its ethical, responsible, transparent, and beneficial use for society. The Governance Recommendations seek institutional mechanisms, policies, and strategies that the country is implementing to oversee and regulate the development, use, and application of this technology. These range from the creation of multi-stakeholder, multi-sector, interdisciplinary, and transdisciplinary committees to collaboration with the private sector and civil society. Robust, open, and collaborative governance is key to fostering responsible innovation and protecting people's fundamental rights and values.

- Integrate the powers of the National Digital Strategy Coordination of the Presidency of the Republic and those of the Center for Research and Innovation in Information Technologies (INFOTEC) to create the National Digital Agency (ADN) as a decentralized public agency reporting to the Federal Executive Branch. The merger includes the integration of staff, assets, and budget to form the ADN.

As well as the reconversion of professional roles and profiles, without this considering an increase in the budget currently spent by each of the entities described;

- Create an Artificial Intelligence Office within the ADN. The Office's tasks include developing tools to assess the capabilities of general-purpose AI models, monitoring the implementation of rules, identifying emerging risks, investigating potential violations, and supporting the enforcement of regulations on prohibited uses and practices of AI, as well as registering risk systems.

- Promote, through the ADN, that all public entities assign a digital talent as a focal point responsible for supervising all artificial intelligence-based systems they use and ensuring that the use of these tools in public service remains safe for citizens and the nation;

Establish an Ethics Committee to promote the responsible innovation, procurement, development, use, and application of AI-based technologies in the public and private sectors. The Committee should have a multi-stakeholder, multi-sector, interdisciplinary, and transdisciplinary approach;

and

- In matters related to national security, applicable regulations must be followed;
- Align the guidelines for ICT budget management and procurement processes for ICT goods and services of the Public Administration

Federal, Autonomous Bodies, Powers

Legislative, State and Municipal Governments, as well as those of the Support Programs for the Local Modernization such as INAFED, to generate better pricing conditions and promote the development, use, and constant updating of open and shared digital public infrastructure with public and private entities;

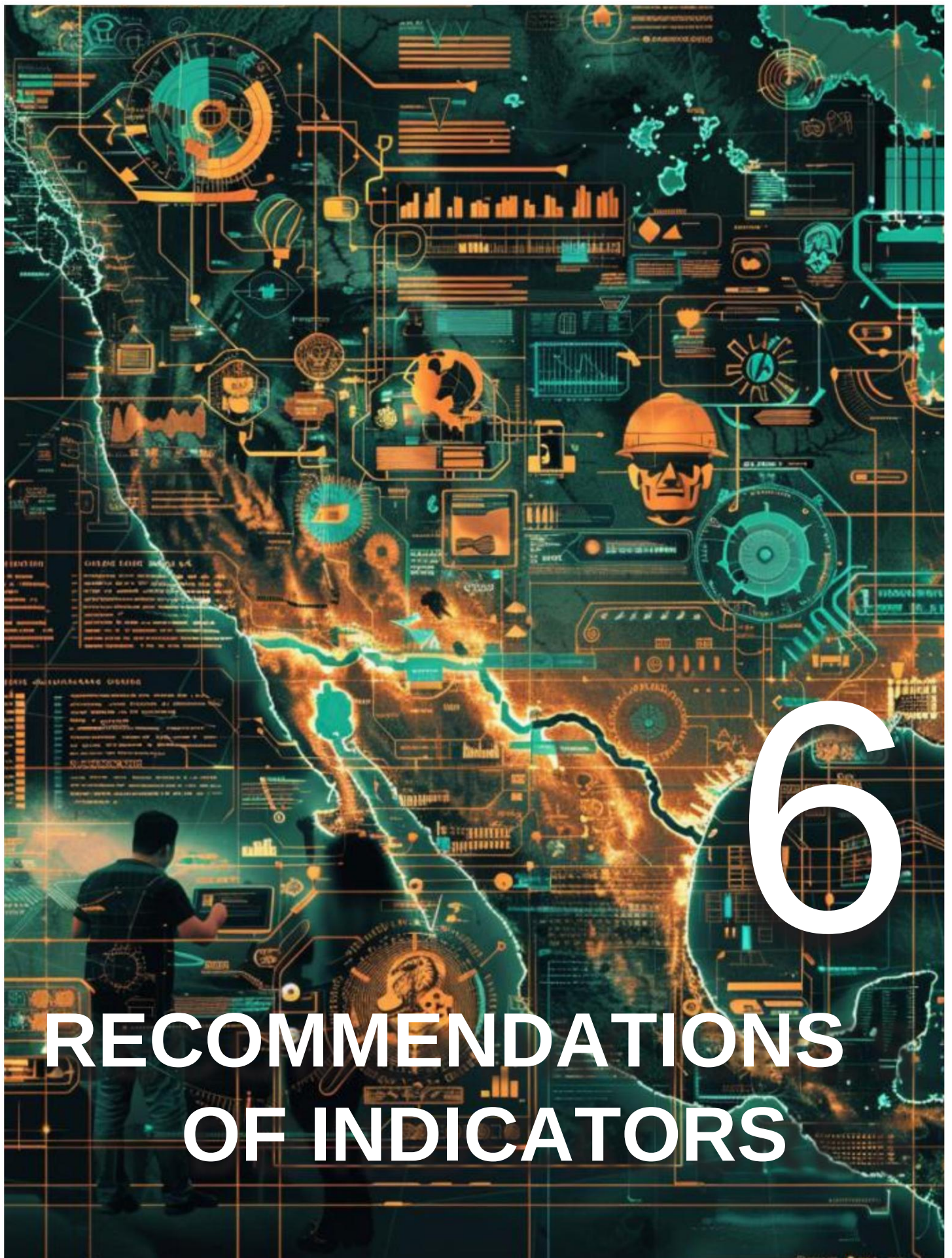
- Update and strengthen the powers of the Intersecretarial Commission on Information Technologies Information and Communication, and Information Security (CITICSI) and its working groups, incorporating one specialized in Intelligence Artificial and emerging technologies; to reflect the country's digital development priorities;
- Promote the implementation of coordination mechanisms with state governments such as the National Conference of Governors (CONAGO); state and municipal governments such as the State and Municipal Public Administration Information Technology Committee (CIAPEM); as well as with autonomous constitutional bodies such as the INAI (National Institute of Statistics and Census), the National Economic Competition Commission (COFECE), the IFT (Institute of Statistics and Census), the National Human Rights Commission, the Federal Commission for the Protection against Health Risks (COFEPRIS), the INE (National Institute of Statistics and Census), the IMPI (National Bioethics Commission), the National Bioethics Commission (CONBIOÉTICA), and the legislative and judicial branches, to name a few;

- Enable the CITICSI Advisory Council as a multi-stakeholder governance space - private sector, academia, civil society, population, among others - responsible for driving constant updates to the Digital Agenda

National and Specific Agendas safeguarding the principles of inclusion, non-discrimination, privacy, equitable access, and promotion of digital innovation in all groups, populations and productive sectors of the country;

- Incorporate representatives from the ICT industry and industrial sectors with high consumption of AI-based services and products, academia, and organized civil society into the process of defining standards, protocols, and safeguards for the ethical, legal, and responsible development, use, and application of AI models and emerging technologies, within the framework of human rights;

- Institutionalize collaboration mechanisms between regulators, stakeholders and public entities to implement testing spaces, known as “sandboxes”;
- Enable INFOTEC's Tier 4 Data Center as a specialized “Sandbox ” for developing strategic use cases for the country's development, whose data use requires the highest standards of security, anonymization, and privacy. These use cases will have advisory councils and access to national and international expert networks;
- Ensure the application of the constitutional principle of gender parity in the management of government entities and its extension to various hierarchical levels, functions, and specialized areas of AI-based technologies, as well as its incorporation into private and social organizations through legal changes that contemplate affirmative actions, quotas, and transparency measures. This should include promoting diverse profiles in governing bodies and in all areas of specialization, encompassing gender, age, and experience in technical, technological, humanistic, and ethical aspects, among others;
- Recognize and contribute to the agenda defined by the National Artificial Intelligence Alliance (ANIA) as a consultative and public action space of the Legislative Branch, directed by the Senate and bicameral, multi-stakeholder, open and participatory, aimed at keeping Mexico's legislative framework at the forefront to guarantee the rights of people and the best use of digital technologies;
- Promote Mexico's participation in the largest number of Digital Governance and technical standardization processes, such as the definition of standards, international reference frameworks, and other agendas of international organizations where the ADN will articulate the country's position in collaboration with the Ministry of Foreign Affairs and specialized organizations in Mexico, as appropriate.



RECOMMENDATIONS OF INDICATORS

Defining indicators on the impact of Artificial Intelligence on society is challenging due to its complexity and multiple dimensions.

It is essential to accurately identify and measure the positive and negative effects of AI in areas such as the economy, employment, privacy, and equity. The indicator recommendations seek to strengthen institutional capacities to generate reliable data and accurately measure the impact of AI. They are based on the information in Annex 1.9.

- Establish a working subgroup to build indicators for the use and development of AI-based technologies, with the participation of CITICSI and INEGI;
- Build a national matrix of AI indicators that must be consistent with global indicator frameworks to measure Mexico's progress relative to other countries in the world. This matrix must define, at a minimum, the indicator, calculation method, and source of information (survey, system), as well as establish solid standards for data collection and management, ensuring transparency and accountability in its use;
- Enable an open-source indicator matrix that includes continuous curation of underlying data, based on the mapping of accredited APIs and source information systems for calculating the indicator. (For example, the number of programs focused on the study of AI can be extracted from the catalog of programs at educational institutions accredited by the SEP.)



CONCLUSIONS

The recommendations in this document reflect a strong and multifaceted commitment to guiding the development and implementation of artificial intelligence in Mexico toward a sustainable, inclusive, ethical, and responsible future. This framework encompasses public policies, specific regulations, and governance strategies, underscoring the importance of a collaborative, multi-stakeholder, multidisciplinary, multi-sector, interdisciplinary, and transdisciplinary approach that involves all sectors of society.

at the forefront of the global debate on AI, reiterating its commitment to technological development that is inclusive, fair, and beneficial to its entire population.

In order to have a comprehensive view of the country's digital landscape and implement the recommendations outlined in this document, it is imperative to have the continued participation of all stakeholders in the country's digital ecosystem, in addition to close institutional coordination between the various governing bodies and the creation of structures that allow these recommendations to be implemented.

Furthermore, the adoption and exploitation of scientific and technological developments in AI-based technologies present a unique opportunity to boost economic growth, address social and environmental challenges, and improve people's quality of life. However, it is essential that this technological advancement be managed in a respectful manner, committed to protecting human rights and the environment, and that equity be promoted, while mitigating and preventing the exacerbation of existing inequalities.

The recommendations detailed in this document not only seek to position Mexico at the forefront of the ethical, legal, and responsible use of AI-based technologies, but also to ensure that the transition to a digitally advanced economy and society benefits all sectors of the population, especially protecting the most vulnerable.

To achieve this, investment in education, training, digital infrastructure, research and development, as well as the creation of a regulatory framework that fosters innovation while protecting against the potential risks associated with technology, is essential.

Looking ahead, the effective implementation of these recommendations will require sustained effort, constant monitoring, and a willingness to adapt to rapid changes in the technology field. Open communication and collaboration at the national and international levels, as well as the sharing of knowledge and best practices, will be crucial to navigating emerging challenges and taking advantage of the new opportunities that AI-based technologies offer.

With this document, Mexico positions itself in the



ANNEXES

ANNEX 1 Documents main ANIA

Name	Description	Access
Annex 1.1 OVERVIEW OF INTELLIGENCE ARTIFICIAL IN MEXICO: TOWARDS A NATIONAL STRATEGY AND THE RELEVANCE OF THE SANDBOX	This report offers a comprehensive overview of the current state of AI in the country, addressing everything from public policy to operational and regulatory challenges. Additionally, it presents the results of the AI Regulatory Sandbox project, a collaborative initiative that seeks to promote an appropriate regulatory framework for the development of AI in Mexico.	
Annex 1.2 OVERVIEW OF INTELLIGENCE ARTIFICIAL IN MEXICO: THE RELEVANCE OF THE SANDBOX	The results of the project are presented, which aimed to socialize the concept of a regulatory sandbox and identify the interest of the Mexican digital ecosystem in implementing this support tool in the regulation of cases or models that use AI.	

Annex 1.3 Draft decree amending section XVII of article 73 of the Political Constitution of the United Mexican States.

First legislative product of ANIA: Initiative that seeks to empower the Congress of the Union to enact laws on artificial intelligence and its applications, cybersecurity and human rights
and neuro



Annex 1.3 Analysis and perspectives of AI from the regulatory sphere

A study by the Gilberto Bosques Center for International Studies analyzes international efforts to regulate technologies based on Artificial Intelligence.



Annex 1.3 Conclusions of the Working Groups

Document presenting the conclusions of the three sessions of each of the six working groups that were held with the help of experts to create this recommendation document.



Annex 1.4 Study on AI in Mexico and the World by the Belisario Domínguez Institute

Belisario Domínguez Institute study on the current state of AI in Mexico and around the world.



Annex 1.5 Diagnosis of the Current Situation of AI in Mexico

An updated assessment of the current status of AI in Mexico is presented from various perspectives, including economics, investment and development, the regulatory framework, education, labor markets, and research.



Annex 1.6 AI use cases in Mexico

Section of the Alliance's website documenting the various AI use cases throughout Mexico.



Annex 1.7 Legislative monitoring: Artificial intelligence

Section of the page where all initiatives related to artificial intelligence can be found.

This section of the site is constantly updated.



Annex 1.8 ANIA Work Report 2023-2024

It recounts all the vertical events the Alliance has held in collaboration with its experts since its creation on April 23, 2023, until May 2024.



Annex 1.9 Relevant indicators for the recommendations document

Some relevant indicators are presented that demonstrate Mexico's competitiveness in the development and use of Artificial Intelligence. This serves as a basis for the indicator recommendations.



Annex 1.10 Analysis of the SDGs for the "Proposed National Agenda for Artificial Intelligence for Mexico (2024 - 2030)"

This analyzes the recommendations of the "Proposed National Agenda for Artificial Intelligence for Mexico (2024 - 2030)", in accordance with the Sustainable Development Goals.



ANNEX 2 Main sources of information: diagnosis and consultation with experts

The construction of this document is articulated with two efforts carried out simultaneously in coordination with ANIA.

Table 1. Main sources of information: diagnosis and consultation with experts

	RAM DOCUMENT (READINESS ASSESSMENT METHODOLOGY)	EXPERT CONSULTATION
Aim	To be a diagnostic tool that allows Mexico to assess its level of preparedness for the development, use, and ethical, legal, and responsible application of AI that benefits the population.	Contribute to the design of public policies, possible regulation, and the governance model in Mexico.
Overview	The RAM (Readiness) document Assessment Methodology), is one of the two pillars of implementation of the UNESCO Recommendation on the Ethics of Artificial Intelligence, signed in 2021 by 193 member countries, with the RAM, Mexico joins the more than 50 countries that are implementing and developing diagnosis a UNESCO.	Recommendations provided by the participation of experts through six working groups that focus on: • Group 1. Public policies and law • Table 2: Education and labor markets • Table 3: Cybersecurity and risk management • Table 4: Gender, inclusion and social responsibility • Table 5: Infrastructure and data • Table 6: Innovation and industry

Methodology

Experts in various disciplines were identified to be asked a series of questions provided by UNESCO.

by the

The themes were obtained through a public survey.

The work tables were divided into three sessions, each with different objectives. •

Session 1: Diagnosis and identification of challenges

- **Session 2:** Analyze

The benefits and impacts of AI-based technologies as a component of the design, implementation and monitoring of various public policies, as well as the impact on rights and freedoms, their eventual regulation and governance model.

- **Session 3:** Develop proposals for public policies, regulations, and governance models for Artificial Intelligence in Mexico.



Chile, to. (nd). MULTI-ACTOR COOPERATION. Chilean Agency for International Development Cooperation. Retrieved April 23, 2024, from <https://www.agci.cl/multi-actor-cooperation/multi-actor-cooperation>

AI Act | *Shaping Europe's digital future*. (2024, March 6). Shaping Europe's digital future. Retrieved March 12, from <https://digital-strategy.2024>,

ec.europa.eu/en/policies/regulatory-framework-ai
National Alliance for Artificial Intelligence. (nd).
Workshops | *Ania MX*. National Intelligence Alliance

Artificial. <https://www.ania.org.mx/services-2>

National Alliance for Artificial Intelligence (ANIA). (2023). Table 1 | *Ania MX*. National Alliance for Artificial Intelligence. <https://www.ania.org.mx/mesa1politicasyderechos>

National Alliance for Artificial Intelligence (ANIA). (2023). Table 2 | *Ania MX*. National Alliance for Artificial Intelligence. <https://www.ania.org.mx/mesa2educacionymercadoslaborales>

National Alliance for Artificial Intelligence (ANIA). (2023). Table 3 | *Ania MX*. National Alliance for Artificial Intelligence. <https://www.ania.org.mx/mesa3ciberseguridadygestionderiesgos>

National Alliance for Artificial Intelligence (ANIA). (2023). Table 4 | *Ania MX*. National Alliance of <https://www.ania.org.mx/table4genderinclusionandsocialresponsibility>

National Alliance for Artificial Intelligence (ANIA). (2023). Table 5 | *Ania MX*. National Alliance for Artificial Intelligence. <https://www.ania.org.mx/mesa5infraestructuraydatos>

National Alliance for Artificial Intelligence (ANIA). (2023). Table 6 | *Ania MX*. National Alliance for Artificial Intelligence. <https://www.ania.org.mx/mesa6innovacioneindustria>

National Alliance for Artificial Intelligence (ANIA). (2023, November 2). [ania.org.mx. https://www.ania.org.mx/post/bletchley-declaration-november-2023](https://www.ania.org.mx/post/bletchley-declaration-november-2023)

National Artificial Intelligence Alliance (ANIA). (2023, November 2). *The G7 and the "Hiroshima AI Process"*:

Moving Toward Responsible AI. [Ania.org.mx](https://www.ania.org.mx).

<https://www.ania.org.mx/post/el-g7-y-el-proceso-de-ia-de-hiroshima-avanzando-hacia-una-ai-responsable>

Sissi, Ernesto Ibarra, and Cristina Santoyo de la Peña; Panorama of AI in Mexico: Towards AI Governance and the Relevance of the AI Sandbox. 2024. <https://www.amcid.org/page/sandboxregulatorymexico>

Andrade Paco, J., Nava Ortega, M.J., & Valverde Núñez, J. (2009). Continuing education as an academic training process for students who graduated from

Higher education institutions in the state of Sonora (Mexico). *Accounting and Business*, 4(8), 57-62.

<https://www.redalyc.org/articulo.oa?id=281621776008>

Araya Muñoz, I. (2008). Dual education and its curricular foundation. *Education Journal*, 32(1), 45-61. <https://www.redalyc.org/pdf/440/44032105.pdf>

Arbache, J. (2022, November 14). *Powershoring*. CAF. <https://www.caf.com/es/knowledge/visions/2022/11/powershoring/> Argentina, G. d. A. (nd). *What is digital citizenship?* Argentina.gob.ar.

<https://www.argentina.gob.ar/desarrollosocial/grooming/what-is-digital-citizenship>

Basañes, F. (2019, January 2). *Open Source: Concepts and Applications - Open to the public*. iadb Blogs. <https://blogs.iadb.org/open-knowledge/en/open-source/>

Bilbao Mendieta, L. (2022, November 15). *Data Centers in Mexico*. Bilbao Chamber of Commerce. <https://www.camarabilbao.com/wp-content/uploads/2023/03/DATA-CENTERS-Ficha-del-sector-Data-Centers-M%C3%A9xico-2022.pdf>

Briggs, J., & Kodnan, D. (2023, March 26). *The Potentially Large Effects of Artificial Intelligence on Economic Growth*. Goldman Sachs. Retrieved March 18, 2024, from <https://www.gspublishing.com/content/research/en/reports/2023/03/27/d64e052b-0f6e-45d7-967b-d7be35fabd16.html>

Chamber of Deputies of Mexico. (2009). *GENERAL LAW OF THE NATIONAL PUBLIC SECURITY SYSTEM*. <https://www.diputados.gob.mx/LeyesBiblio/pdf/LGSNSP.pdf>

Cambridge Dictionary, CD (n.d.). LLM | *definition in the Cambridge English Dictionary*. Cambridge Dictionary. Retrieved April 23, 2024, from https://dictionary.cambridge.org/us/dictionary/english/llm#google_vignette

CambridgeUniversity. (2024). *RESKILLING | definition in the Cambridge English Dictionary*. Cambridge Dictionary. Retrieved May 2, 2024, from <https://dictionary.cambridge.org/us/dictionary/english/reskilling>

Cambridge April 24)University. (2024, *UPSKILLING | English meaning - Cambridge Dictionary*. Cambridge Dictionary. <https://dictionary.cambridge.org/dictionary/english/upskilling>
Center for Studies and Research in Public Affairs. (2023, October 3). *Evaluation of State Digital Policy 2023*. CEIAP. <https://www.ceiap.mx/evaluation-of-state-digital-policy-2023/>
Center for Social Studies and Public Opinion. (2006). *Public Safety*. Public Safety. https://archivos.diputados.gob.mx/Centros_Estudio/Cesop/Commissions/dtseguridad%20publica1.htm#Cite%20as

Digital Economy Center. (2021). *Technological Sovereignty: elements for an Italian and European strategy*.

<https://www.centroeconomiadigitale.com/wp-content/uploads/2021/03/CED-Sovranita-Tecnologica.pdf>

ECLAC. (2023). *Country Sheet Mexico Latin American Artificial Intelligence Index*. Latin American Artificial Intelligence Index. Pages 221-225. <https://indicelatam.cl/wp-content/uploads/2023/08/CAP-G-MEXICO.pdf>

Index . (2023). ECLAC Latin American Artificial Intelligence | AI for Sustainable Development in Latin America Latin American Artificial Intelligence | AI for Sustainable Development in Latin America. <https://indicelatam.cl/>

CEPALSTAT. (nd). *Databases and Statistics*. Publications

https://statistics.cepal.org/portal/cepalstat/dashboard.html?indicator_id=1824&area_id=119&lang=en Cesareo, S., & White, J. (2023, June 28). The Global AI Index - Tortoise. Tortoise Medium. <https://www.tortoisemedia.com/intelligence/global-ai/>

Consumotic. (2023, November 9). *Moderate growth of AI professionals in Mexico*. Consumotic. <https://consumotic.mx/tecnologia/discreto-crecimiento-de-profesionistas-en-ia-en-mexico/>

Council of Europe. (2023, August). *Study on the impact of artificial intelligence systems, their potential for promoting equality, including gender equality, and the risks they may cause in relation to non-discrimination*.

<https://rm.coe.int/prems-112923-gbr-2530-etude-sur-l-impact-de-ai-web-a5-1-2788-3289-7544/1680ac7936>

Coursera. (2023). *Global Skills Report 2023*. Coursera. <https://www.coursera.org/skills-reports/global/> Crespi, Francesco Crespi, Serenella Caravella, Menghini, Salvatori, FCSCMM a. CS (2024, March

European Technological Emerging Framework Sovereignty: An 5). for Policy Strategy. , - YouTube.

Retrieved April 24, 2024, from <https://link.springer.com/content/pdf/10.1007/s10272-021-1013-6.pdf>

Cueto, H. (2023, May 29). *Interest in artificial intelligence jobs in Mexico grows 95%*. Business Insider Mexico. https://businessinsider.mx/interes-empleos-inteligencia-artificial-mexico_tecnologia/

De La Peña, S., Ibarra, E., & Santoyo, C. (2024, March). *AI Panorama in Mexico: Towards AI Governance and the Relevance of the AI Sandbox*. <https://www.amcid.org/page/sandboxregulatorymexico>

Dialnet, D. (nd). *Algorithmic discrimination and its impact on human dignity and human rights*.

Humans: Special reference to immigrants. Dialnet.

<https://dialnet.unirioja.es/servlet/articulo?codigo=9235564>

Edler, J., Blind, K., Frietsch, R., Kimpeler, S., Kroll, H., Lerch, C., Reiss, T., Roth, F., Schubert, T., Schuler, J., Walz, R., & FRAUNHOFER INSTITUTE FOR SYSTEMS AND INNOVATION RESEARCH ISI. (2020, July). *Technology sovereignty From demand to concept* (J. Schuler, Ed.). Germany,.

El Economista. (2023, May 25). *55% of internet users in Mexico believe that artificial intelligence is a useful tool*. El Economista. <https://assets.eleconomista.com.mx/tecnologia/55-of-internet-users-in-Mexico-believe-that-artificial-intelligence-is-a-useful-tool-20230525-0022.html>

[eleconomista.com.mx/tecnologia/55-of-internet-users-in-Mexico-believe-that-artificial-intelligence-is-a-useful-tool-20230525-0022.html](https://assets.eleconomista.com.mx/tecnologia/55-of-internet-users-in-Mexico-believe-that-artificial-intelligence-is-a-useful-tool-20230525-0022.html)

The G7 and the "Hiroshima AI Process": Moving Towards Responsible AI (ANIA, Compiler). (2023).

<https://www.ania.org.mx/post/el-g7-y-el-proceso-de-ia-de-hiroshima-avanzando-hacia-una-ai-responsable>

Economic Survey of Latin America and the Caribbean 2023. Financing a Sustainable Transition: Investing for Growth and Addressing Climate Change. (2023, November 1). ECLAC.

<https://www.cepal.org/es/publicaciones/67989-Economic-Study-of-Latin-America-and-the-Caribbean-2023-Financing-Transition>

Gitlan, D. (2024, February 6). *What is a code signing certificate and how does it work?* SSL Dragon

<https://www.ssldragon.com/es/blog/que-es-certificado-de-firma-de-codigo/> Global Economics Analyst *The Potentially Large Effects of Artificial Intelligence on Economic Growth* (BriggsKodnani). (2023, March 26). ANSA. [https://www.key4biz.it/wp-content/uploads/2023/03/Global-](https://www.key4biz.it/wp-content/uploads/2023/03/Global-Economics-Analyst_-The-Potentially-Large-Effects-of-Artificial-Intelligence-on-Economic-Growth-Briggs_Kodnani.pdf)

[www.key4biz.it/wp-content/uploads/2023/03/Global-](https://www.key4biz.it/wp-content/uploads/2023/03/Global-Economics-Analyst_-The-Potentially-Large-Effects-of-Artificial-Intelligence-on-Economic-Growth-Briggs_Kodnani.pdf)

[Economics-Analyst_-The-Potentially-Large-Effects-of-Artificial-Intelligence-on-Economic-Growth-Briggs_Kodnani.pdf](https://www.key4biz.it/wp-content/uploads/2023/03/Global-Economics-Analyst_-The-Potentially-Large-Effects-of-Artificial-Intelligence-on-Economic-Growth-Briggs_Kodnani.pdf)

Global Partnership on Artificial Intelligence (GPAI). (2023, December 13). *2023 Ministerial Declaration. Adopted at the 5th GPAI Ministerial Council meeting on December 13, 2023, in the context of the GPAI Summit in New Delhi*. Global Partnership on Artificial Intelligence - GPAI. <https://gpai.ai/2023-GPAI-Ministerial-Declaration.pdf>

Gob.mx. (nd). *Approved Model for Cyber Police Units*. Government of Mexico.

https://www.gob.mx/cms/uploads/attachment/file/189189/Model_homologated_units_policia_cibernetica.pdf

Gob.mx. (2020, February 5). Digital Education Agenda. Senate of the Republic.

https://infosen.senado.gob.mx/sgsp/gazette/64/2/2020-02-05-1/assets/documents/Digital_Education_Agenda.pdf

National Guard CERT-MX. (n.d.). Guard CERT-MX | Campaign | gob.mx. Government of Mexico. <https://www.gob.mx/gncertmx>

Hendricks, CC (2018, November 3). WAC/WID and transfer: Towards a transdisciplinary view of academic writing. http://wac.colostate.edu/atd/trans_wac/hendricks2018.pdf

Hernández, A. (2024, January 18). 2024, the year of consolidation of Artificial Intelligence. Excélsior.

<https://www.excelsior.com.mx/hacker/2024-ano-consolidacion-de-inteligencia-artificial/1630839>

IBM. (2022). IBM Global AI Adoption Index 2022. <https://www.ibm.com/downloads/cas/GVAGA3JP>

IBM. (2024, January 10). Data Suggests Growth in Enterprise Adoption of AI is Due to Widespread Deployment by Early Adopters, But Barriers Keep 40% in the Exploration and Experimentation Phases.

MultiVu. <https://www.multivu.com/players/English/9240059-ibm-2023-global-ai-adoption-index-report/>

IBM Global AI Adoption Index 2022. (2022, May 1). IBM.

<https://www.ibm.com/downloads/cas/GVAGA3JP>

IBM Global AI Adoption Index 2022. (2022, May 1). IBM. <https://www.ibm.com/downloads/cas/GVAGA3JP>

IFT, I. (2019). "Recommendation issued by the Advisory Council of the Federal Telecommunications Institute on the promotion of the digital economy." IFT.

Retrieved April 23, 2024, from https://www.ift.org.mx/sites/default/files/iv.5_ag_36aord_181219_cc_acc.pdf

Artificial Latin American Index Latin American Intelligence Index. (2023). from <https://indicelatam.cl/> Intelligence Artificial.

INEGI. (2020). National Occupational Classification System SINCO. of 2019. INEGI.

<https://www.inegi.org.mx/app/biblioteca/ficha.html?upc=702825198411>

INEGI, I. (2002). Guide to the Concepts, Use, and Interpretation of Labor Force Statistics in Mexico. INEGI.

Retrieved April 23, 2024, from https://www.inegi.org.mx/contents/products/prod_serv/contents/spanish/bvinegi/products/methodologies/est/702825000156.pdf Artificial Intelligence: A Threat to Employment in Mexico? (2023, October 6). Debate. <https://www.debate.com.mx/cdmx/Inteligencia-Artificial-Una-amenaza-para-el-empleo-en-Mexico-20231002-0177.html>

ITU, I. (n.d.). Digital Identity Roadmap Guide. UTI. Retrieved April 23, 2024, from https://www.itu.int/dms_pub/itu-d/opb/str/D-STR-DIGITAL.01-2018-PDF-E.pdf

Lagos, A. (October 12, 2023). This will be the first Artificial Intelligence Lab in Latin America, and it's located in Mexico. WIRED. <https://es.wired.com/articles/this-will-be-the-first-artificial-intelligence-lab-in-latin-america-and-it-is-in-mexico>

com/articles/this-will-be-the-first-artificial-intelligence-lab-in-latin-america-and-it-is-in-mexico

The Artificial Intelligence Revolution: Joe Biden's Executive Order. (November 2, 2023). ania.org.

<https://www.ania.org.mx/post/la-revolución-mx.-from-artificial-intelligence-Joe-Biden-s-decree>

Lynch, S. (2023, December 8). *What to Expect in AI in 2024.* Stanford HAI. Retrieved March 17, 2024, from <https://hai.stanford.edu/news/what-expect-ai-2024>

Mell, P. (nd). *NIST SP 800-145, The NIST Definition of Cloud Computing.* NIST Technical Series Publications. Retrieved May 7, 2024, from <https://nvlpubs.nist.gov/nistpubs/legacy/sp/nistspecialpublication800-145.pdf>

Table 3 *Ania MX.* (nd). Alliance National | of Intelligence Artificial (ANIA).

<https://www.ania.org.mx/>
Table 3: Cybersecurity and Risk Management

Ministry of Science, Technology, Knowledge and Innovation of Chile. (2023, October). *Santiago Declaration.* Ministry of Science, Technology, Knowledge and Innovation of Chile

https://minciencia.gob.cl/uploads/filer_public/40/2a/402a35a0-1222-4dab-b090-5c81bbf34237/declaracion_de_santiago.pdf

MIT Technology Review Insights. (2022). *Global Cloud Ecosystem Index 2022.* MIT Technology Review Insights. <https://www.technologyreview.com/2022/04/25/1051115/global-cloud-ecosystem-index-2022/> . Nance, P. (2018). Initial Results from the Mexico Electricity Reform, 2013–18. *In Mexico's New Energy Reform (p. 104).* Duncan Wood.

[tps://www.wilsoncenter.org/sites/default/files/media/documents/publication/mexicos_new_energy_reform.pdf](https://www.wilsoncenter.org/sites/default/files/media/documents/publication/mexicos_new_energy_reform.pdf)

Neffke, F. (2019, December 18). *The real benefits of complementary skills in the workplace is one of the lines of research of the Growth Lab at Harvard University*.

Center for International Development at Harvard University. <https://cid-harvard.github.io/networkspace/#>

Nieto, P. (2023, December 19). *The Year of Artificial Intelligence*. The New York Times. Retrieved May 3, 2024, from <https://www.nytimes.com/es/2023/12/19/Spanish/artificial-intelligence-applications.html>

Digital Development Observatory. (2023). *Complete list of Digital Development indicators*. ECLAC. <https://desarrollodigital.cepal.org/es/indicadores?id=373>

Digital Development Observatory. (2023, November 17). *Startups drive AI-based innovation in the region*. Digital Development Observatory.

<https://desarrollodigital.cepal.org/es/datos-y-hechos/las-startups-boost-innovacion-basada-en-inteligencia-artificial-en-la-region>

OECD. (2024). *Research and development (R&D) - Gross domestic spending on R&D*. OECD Data. <https://data.oecd.org/rd/gross-domestic-spending-on-rd.htm>

OECD, O. (2023, 11 7). *OECD Legal Instruments*. Retrieved April 23, 2024, from <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449>

OECD.AI. (n.d.). *Live Data*. OECD.AI Policy Observatory. <https://oecd.ai/en/data?selectedArea=ai-jobs-and-skills&selectedVisualization=ai-talent-concentration-by-country-and-gender>

OECD.AI. (2023). *Visualizations powered by JSI using data from OpenAlex*. The OECD Artificial Intelligence Policy Observatory - OECD.AI. <http://www.oecd.ai>

OECD.AI. (2023). *Visualization powered by JSI, using data from GitHub*. The OECD Artificial Intelligence Policy Observatory - OECD.AI. <http://www.oecd.ai>

OECD.AI. (2023). *visualizations powered by Tableau using data form Google Trends*. OECD Artificial Intelligence Policy Observatory - OECD.AI. <http://www.oecd.ai>

OECD Artificial Intelligence Policy Observatory - www.oecd.ai

UN. (nd). Sustainability. United Nations | Impact <https://www.un.org/es/impact-academic/page/sustainability#:~:text=En%201987%2C%20the%20Commission%C3%B3n%20Brundtland,of%20satisfy your own needs>

UN, UN (nd). Human Rights | United Nations. Retrieved April 23, 2024, from <https://www.un.org/global-issues/human-rights>

UN, NU (nd). What are renewable energies? | United Nations. the United Nations. <https://www.un.org/es/climatechange/what-is-renewable-energy>

Opp, R. (2024, March 1). The Artificial Intelligence (AI) Revolution Is Here: How Will Latin America and the Caribbean Respond? The Artificial Intelligence (AI) Revolution Is Here: How Will Latin America and the Caribbean Respond? <https://www.undp.org/es/latin-america/blog/the-artificial-intelligence-revolution-ai-is-already-here-how-will-latin-america-and-the-caribbean-respond>

Oxford Insights. (2023). AI Readiness Index. Oxford Insights. <https://oxfordinsights.com/ai-readiness/ai-readiness-index/>

Oxford Insights. (2023). Government AI Readiness Index 2023. Oxford Insights. <https://oxfordinsights.com/ai-readiness/ai-readiness-index/>

Oxford Reference, OR (n.d.). Nearshoring. Oxford Reference. Retrieved April 23, 2024, from <https://www.oxfordreference.com/display/10.1093/oi/authority.20110803100226581>

(nd). multisectoral | Definition | RAE, R. Dictionary of the Spanish language | RAE - ASALE. Dictionary of the Spanish language. Retrieved April 23, 2024, <https://dle.rae.es/multisectorial>

Ramírez, É. J. (2021, March 24). INITIATIVE THAT ISSUES THE DIGITAL HEALTH LAW, IN CHARGE OF REPRESENTATIVE ÉCTOR JAIME RAMÍREZ BARBA, OF THE PAN PARLIAMENTARY GROUP. Legislative Information System. http://sil.gobernacion.gob.mx/Archivos/Documentos/2021/03/asun_4161366_20210324_1616609171.pdf

Raymond, ES (nd). What is open source software? IBM. <https://www.ibm.com/mx-es/topics/open-source>

Real (2023). motto environmental sustainability. Pan-Hispanic Spanish Legal Dictionary. <https://dpej.rae.es/lema/sostenibilidad-ambiental>

Ibero-American Data Protection Network. (2019). Specific Guidelines for Compliance with the Principles and Rights Governing the Protection of Personal Data in Artificial Intelligence Projects. Ibero-American Data Protection Network. <https://www.redipd.org/sites/default/files/2020-02/guia-orientaciones-espec%C3%ADficas-proteccion-datos-ia.pdf>

Ibero-American Data Protection Network. (2019). General Recommendations for Data Processing in Artificial Intelligence. Ibero-American Data Protection Network. <https://www.redipd.org/sites/default/files/2020-02/guia-recomendaciones-generales-tratamiento-datos-ia.pdf>

Rojas, F. (2024, March 20). SIGNIFICANT CONNECTIVITY. Federal Telecommunications Institute. Retrieved April 23, 2024, from <https://www.ift.org.mx/digital-transformation/blog/meaningful-connectivity>

SCJN. (2024, March 14). Press Releases of Press. List of Press Releases. <https://www.internet2.scjn.gob.mx/red2/comunicados/news.asp?id=7148> Ministry of Economy, Undersecretariat of Foreign Trade, Ministry of Public Education, Ministry of Labor and Social Welfare, & National Council of Humanities, Sciences and Technologies. (2023, April). Mexican Talent for Growth, Relocation and Recola. Government of Mexico. https://www.gob.mx/cms/uploads/attachment/file/828154/talento-mexicano_esp.pdf

Ministry of Infrastructure, Communications, and Transportation. (2022). PUBLIC PLACES CONNECTIVITY PROGRAM 2023. Government of Mexico. https://www.gob.mx/cms/uploads/attachment/file/791995/PCSP_2023.pdf

SECRETARY OF THE PUBLIC SERVICE, NATIONAL DIGITAL STRATEGY COORDINATION. (2015, October 28). Adoption of the International Open Data Charter. Google Docs. https://drive.google.com/file/d/1kli24SbC_bk8SjyKAYCXE4TK-kU4ssnj/view?usp=sharing

NATIONAL SYSTEM OF TRANSPARENCY, ACCESS TO PUBLIC INFORMATION AND PROTECTION OF PERSONAL DATA. (2023, March 4). AGREEMENT BY WHICH THE NATIONAL COUNCIL OF THE NATIONAL SYSTEM OF TRANSPARENCY, ACCESS TO PUBLIC INFORMATION AND PROTECTION. National Transparency System. <https://snt.org.mx/wp-content/uploads/CONAIP-SNT-AGREEMENT-ORD02-09-10-2023-03.pdf>

UCL, U. d. C. (nd). Multidisciplinary, Interdisciplinary and Transdisciplinary. Libros.uchile.cl. Retrieved April 23, 2024, from <https://libros.uchile.cl/files/presses/1/>

monographs/1098/submission/proof/4/index.html#zoom=z UNAM, I. d. IJ dl U. (nd). Wikipedia. <https://archivos.juridicas.unam.mx/www/bjv/libros/10/4974/16.pdf>

UNDP, U. (n.d.). Digital public infrastructure. United Nations Development Programme. Retrieved April 23, 2024, from <https://www.undp.org/digital/digital-public-infrastructure>

UNDP, U. (2014, April 15). Synopsis: Citizen Security. Synopsis: Citizen Security | United Nations Development Programme. Retrieved April 23, 2024, from <https://www.undp.org/es/publicaciones/sinopsis-seguridad-ciudadana>

UNESCO, U. (2021, skills 1 1). UNESCO digital competences. https://unesdoc.unesco.org/in/documentViewer.xhtml?v=2.1.196&id=p::usmarcdef_0000380113&file=/in/rest/annotationSVC/DownloadWatermarkedAttachment/attach_import_3a95803f-8657-466e-9723-130de6e7f32d%3F_%3D380113spa.pdf&locale=es&multi=true&ark=/ark:/48223/pf

UNESCO, U.-U. (n.d.). Glossary article: soft skills. UNESCO-UNEVOC. Retrieved April 23, 2024, from <https://unevoc.unesco.org/home/Glossary+article%3A+soft+skills>

University of Sao Paulo, U. d. SP (2015). RESEARCH PROJECT (Master). Digital Library of Teses e Dissertações da USP. Retrieved April 24, 2024, from https://www.teses.usp.br/teses/available/102/102131/tde-08032016-091721/publico/PolianaFigueiraCardoso_defesa.pdf

Vergara, J. (2022, December 15). Leaks and hacks, the main concern for Mexican companies in 2023. PwC. <https://www.pwc.com/mx/es/prensa/2022/digital-trust-insights-2023.html>

WEF, W. (2024, February 13). What to expect for digital public infrastructure in 2024. The World Economic Forum. Retrieved April 23, 2024, from <https://www.weforum.org/agenda/2024/02/dpi-digital-public-infrastructure/>

World Economic Forum (WEF). (n.d.). World Economic Forum Annual Meeting 2024 | World Economic Forum. The World Economic Forum. <https://es.weforum.org/events/world-economic-forum-annual-meeting-2024/>

World Economic Forum (WEF). (2020, October 21). What are the top 10 job skills for the future? The World Economic Forum. <https://www.weforum.org/agenda/2020/10/top-10-work-skills-of-tomorrow-how-long-it-takes-to-learn-them/>



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